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**NOGAP
BIBLIOGRAPHY**

**Volume 3
March, 1989**

***Northern
Oil and
Gas
Action
Program***

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BIBLIOGRAPHY**

**Volume 3
March, 1989**

**NOGAP SECRETARIAT
CONSTITUTIONAL DEVELOPMENT AND STRATEGIC PLANNING BRANCH
INDIAN AND NORTHERN AFFAIRS CANADA**

SOMMAIRE

La présente bibliographie contient des renvois et des sommaires au sujet des rapports, publiés ou non, produits sous l'égide du Programme d'initiatives pétrolières et gazières dans le Nord (PIPGN). Le PIPGN est un programme de recherche et de planification d'une durée de sept ans (1984-1985 à 1990-1991) qui vise à préparer le gouvernement fédéral et les administrations territoriales à participer à des grands projets de mise en valeur des hydrocarbures qui gisent au nord du 60^e parallèle.

La bibliographie porte sur tous les rapports produits avec l'aide, même partielle, du PIPGN et présentés au Secrétariat du Programme entre le 31 janvier 1988 et le 29 juillet de la même année. Certains ont été publiés, notamment dans le cadre d'une série de publications ministérielles bien connues. Toutefois, la majorité ne l'a pas été, bien que certains le seront peut-être à l'avenir.

Le présent document est organisé en fonction des différents participants au PIPGN et selon les titres et numéros des projets.

Tous les renvois bibliographiques du PIPGN sont versés au système d'information sur la science et la technologie arctiques (habituellement appelé système ASTIS) de l'Institut arctique de l'Amérique du Nord, dont le siège social se trouve à l'université de Calgary.

Enfin des exemplaires de certains rapports sont disponibles, ce qu'indique parfois le renvoi. Pour de plus amples renseignements, s'adresser à:

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INTRODUCTION

Purpose

This bibliography contains citations and abstracts for published and unpublished reports completed under the Northern Oil and Gas Action Program (NOGAP). These items have been funded wholly or partly by NOGAP.

One of NOGAP's operating objectives is to make its products widely known and available. This volume, the third in a series, is issued in support of this objective. It was compiled with the assistance of: Judith Ramos, Zita LeBlanc, Helen Ludlow and Len Sillanpaa.

The Program

NOGAP is a seven-year research and planning program to advance the state of federal and territorial government preparedness for major hydrocarbon development north of 60°.

Government preparedness for northern hydrocarbon production refers generally to acquiring the knowledge and analytical capability to make appropriate decisions concerning major northern development proposals. Preparedness requires the ability to evaluate environmental impacts and mitigate adverse ones; to develop guidelines and techniques to minimize hazards; to plan for additional public services and infrastructure; and, to implement means of enhancing northern opportunities and benefits from hydrocarbon development.

NOGAP funds are used to accelerate work on current projects or to undertake new activities which existing budgets cannot accommodate. Projects are proposed by NOGAP participants to support their responsibilities in connection with northern hydrocarbon development. They are undertaken within the context of generic development scenarios that have been adopted for the program. The program has operated since April 1, 1988 on an interim basis, pending new resources.

Scope of the Bibliography

The bibliography is multi-disciplinary by virtue of the organizations participating in NOGAP - seven federal departments and both territorial governments:

Federal Government

- 1) Indian and Northern Affairs Canada - Natural Resources and Economic Development;

- 2) Fisheries and Oceans - Pacific and Freshwater Fisheries, Science Sector;
- 3) Environment Canada - Conservation and Protection, Atmospheric Environment;
- 4) Forestry Canada - Canadian Forestry Service;
- 5) Energy, Mines and Resources Canada - Geological Survey of Canada;
- 6) Transport Canada - Canadian Coast Guard Northern (Observer);
- 7) National Museums of Canada - Canadian Museum of Civilization, Archaeological Survey of Canada.

Government of Yukon

- 1) Executive Council Office - Bureau of Statistics;
- 2) Education - Yukon Archives;
- 3) Economic Development - Mines and Small Business;
- 4) Renewable Resources - Lands, Parks and Resources; Fish and Wildlife;
- 5) Tourism - Heritage Branch.

Government of the Northwest Territories

- 1) Culture and Communications - Prince of Wales Northern Heritage Centre;
- 2) Economic Development and Tourism;
- 3) Energy, Mines and Resources Secretariat;
- 4) Health - Programs and Standards;
- 5) Justice and Public Services - Legal, Consumer Services;
- 6) Municipal and Community Affairs - Policy and Legislation, Regional Operations;
- 7) Renewable Resources - Policy and Planning, Wildlife Management, Environmental Planning and Assessment;
- 8) Social Services - Regional Program.

The bibliography contains all the reports produced completely or partially with NOGAP funding and submitted to the NOGAP Secretariat

between January 1987 and August 1988. Some of these reports have been published, primarily in well-known departmental series. A majority of reports have not been formally published, although some may later be published in existing series. The reports are final, unless otherwise noted. Such documents as annual progress reports are generally not included, given their transitional nature. A fourth volume of the bibliography is currently in preparation and expected to be available in the fall of 1989.

Organization of the Bibliography

The bibliography is organized by NOGAP participants, in the order shown in the preceding section, under the participating branch or agency and by the project name and number under which the material was developed.

The bibliography contains a full citation and an abstract for each report. The citation format is that used by the Arctic Science and Technology Information System (ASTIS).

Availability of Documents

The last line of the citation contains a location code indicating where the document may be obtained directly or on interlibrary loan. The symbols for Canadian libraries assigned by the National Library of Canada are used. All citations show the library symbol OORD, which indicates that the NOGAP documents are also available from:

Indian and Northern Affairs Canada
Departmental Library
Interlibrary Loan Section
Ottawa, Ontario
KLA OH4
(819) 997-0799

The library symbols used are as follows:

ACSP	Institute of Sedimentary and Petroleum Geology, Calgary
AEECW	Canadian Wildlife Service, Environment Canada, Edmonton
AEEPS	Environmental Protection Service, Northwest Region, Environment Canada, Edmonton
AVAEP	Environmental Protection Service, Pacific Region, Environment Canada, West Vancouver
BVAG	Geological Survey of Canada, Vancouver
BVIEM	Institute of Ocean Sciences, Fisheries and Oceans, Sidney, B.C.
MWFW	Freshwater Institute, Fisheries and Oceans, Winnipeg
NSDB	Bedford Institute of Oceanography, Dartmouth
NWYEEP	Environmental Protection Service, Environment Canada, Yellowknife

NWYECW	Canadian Wildlife Service, Environment Canada, Yellowknife
NWYGI	Government In-Service Library, Government of the Northwest Territories, Yellowknife
NWYIN	Indian and Northern Affairs Canada, Yellowknife
NWYOS	Otto Schaeffer Health Resource Centre Library, Yellowknife
NWYRR	Renewable Resources Library, Government of the Northwest Territories, Yellowknife
NWYWNH	Prince of Wales Northern Heritage Centre, Government of the Northwest Territories, Yellowknife
OOFF	Environment Canada, Ottawa
OOG	Geological Survey of Canada, Ottawa
OORD	Indian and Northern Affairs Canada, Ottawa
OTM	Atmospheric Environment Service, Environment Canada, Downsview, Ontario
YWA	Yukon Archives, Whitehorse
YWEENP	Environmental Protection Service, Environment Canada, Whitehorse
YWLS	Library Services Branch, Government of Yukon, Whitehorse

All NOGAP bibliography citations have been included in the database of the Arctic Science and Technology Information System (ASTIS) at the Arctic Institute of North America, University of Calgary, Calgary, Alberta.

In some cases, individual copies of reports are available from non-library sources. A few citations contain this information. Further information on availability and source can also be obtained from:

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NOGAP Secretariat
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CITATIONS AND ABSTRACTS OF REPORTS

INDIAN AND NORTHERN AFFAIRS CANADA

Natural Resources and Economic Development Branch

GRANULAR RESOURCES INVENTORY AND MANAGEMENT PROGRAM (A.4)

Report on Western Beaufort Region Concrete Aggregate Study
Klohn Leonoff. Consulting Engineers. Canada.
Dept. of Indian and Northern Affairs [Sponsor].
Calgary, Alta. : Klohn Leonoff, 1988.
i, 58 p. : tables, figures, maps, col.: ill; 28 cm.
Appendices.
OORD, NWYIN.

The authors evaluated conditions and sampling results from six potential concrete aggregate sources in the western Beaufort region, with laboratory testing to determine index properties, soundness, durability and aggregate reactivity. Each of the sources were also evaluated in terms of accessibility, facilities' requirements, conceptual layout and additional exploration requirements. The report concluded that three of the sites are promising for use as concrete aggregate sources and recommends an extended and detailed testing program.

An Evaluation of the Feasibility of Developing Granular Borrow from the Bed of the Mackenzie River / EBA Engineering Consultants Ltd. Canada.
Dept. of Indian and Northern Affairs [Sponsor].
Calgary, Alta. : EBA Engineering Consultants Ltd., 1987.
66, 17 p. : tables, figures, drawings ; 28 cm.
Appendices.
References.
OORD, NWYIN.

This study reviews the environmental and economic feasibility of developing granular materials from the Mackenzie riverbed for use as construction borrow. The Mackenzie River's naturally high flow rate and high suspended sediment content during the open water season will mask any effects summer dredging might have on water quality and suspended sediments. However, there is concern for the interference dredging may have on the migration of fish along the Mackenzie and on spawning areas. The report points out that there is a shortage of site specific information on riverbed materials and fish populations. It concludes that considerable research effort will be required before the potential value of the riverbed alluvium as a resource material can be firmly established.

Report to Department of Indian Affairs and Northern Development on
Beaufort Region Quarry Rock Study : Volume I : Report, appendix;
Volume II: Supporting Documentation / Gordon Associates. Canada.
Dept. of Indian Affairs and Northern Development [Sponsor].
Vancouver, B.C. : Golder Associates Ltd., 1988.
2 v. (iii, 60 p.; 6 p., ca. 90 p., 3 p., 17 p) : figures, photo's,
maps ; 28 cm.
Appendix.
References.
OORD, NWYIN.

A geotechnical evaluation of the technical feasibility of developing
six quarry rock sources in the vicinity of the Mackenzie Delta.
These sites were assessed for their potential to provide various
materials, from concrete aggregate to armour rock, for use in
constructing shore protection, facilities and artificial islands.
The evaluation included an investigation of site conditions,
description of deposit characteristics and determination of rock
properties at each of the sites. Volume I contains the text and
appendix dealing with the site specific appraisals. Volume II
contains all supporting documentation.

Supplementary Report to the Department of Indian Affairs and Northern
Development on Beaufort Region Quarry Rock Study / Golder Associates.
Canada. Department of Indian Affairs and Northern Development
[Sponsor].
Vancouver, B.C. : Golder Associates, Ltd., 1988
7, ca. 28 p. : tables, figures ; 28 cm.
OORD, NWYIN.

A supplementary report which describes the subsequent appraisal of
two existing quarry sites near Inuvik, N.W.T.. The sites were
visited in 1987 for additional reconnaissance mapping and to collect
samples for laboratory testing. The laboratory tests are summarized
and the engineering evaluations are amended. Additional
recommendations for future work are provided.

Real-Time Marine Resistivity System / Harby BBT Limited. Canada.
Dept. of Indian and Northern Affairs [Sponsor].
Calgary : Hardy BBT Limited, 1987
35 p. : figures, tables, photo's; 28 cm.
Appendices.
References.
OORD, NWYIN.

Marine resistivity measurements offer a valuable complement to
seismic and acoustic techniques in mapping of seabed permafrost and
granular deposits. The Hardy MICRO-WIP marine resistivity system
was originally developed for use at Prudhoe Bay. The study team

refined the existing marine resistivity system hardware and computer software to provide a real-time interpretation of the resistivity data. This capability is now available for routine surveying in offshore environments including the Beaufort Sea.

Granular Resources Management Strategy South Slave Region:
Volume I, text; volume II, appendices/Turbur Consultants Ltd.
Canada Department of Indian and Northern Affairs [Sponsor]
Calgary, Alta: Thurbur Consultants Ltd., 1987.
2v. (iii, 78 p.): tables; 28 cm.
References.
Appendices.
OORD, NWYIN.

Depletion of the South Slave granular sources is investigated here. This study evaluated granular resources supply - demand situation; assessed suitability of regional resources for use as concrete aggregate; identified depleted and abandoned sources and site specific requirements for source rehabilitation; and, recommended a management strategy to promote conservation and efficient use of remaining materials. These topics are discussed on a source, management area, and regional basis. The results are summarized in a series of tables, maps and site plans. Volume I contains the text and supporting technical information is provided in Volume 2.

PHYSICAL ENVIRONMENT: PROCESS AND IMPACTS (A.5)

The Flux of Suspended Particular, Petroleum Related Hydrocarbons, Trace Metals and Nutrients from the Mackenzie River During the Winter Season: A Pilot Study of the East Channel/Arctic Laboratories Ltd. Erickson, P. Fowler, B. Canada. Department of Indian and Northern Affairs. Ottawa: DIAND, 1987.
xix, 124, A-8, B-10: figures, tables; 28cm
(Environmental Studies No. 48)
Appendices.
ISBN 0-662-15639-0, Catalogue No. R71-19/48-1987E
OORD, NWYIN.

The Mackenzie River influences the oceanography and sediment properties of the Beaufort Sea shelf. An understanding of sediment and chemical loads is necessary to predict and assess the environmental impact of future development. Water and suspended particulates were collected through the ice in the eastern channel of the river in April 1985 and in February 1986 to estimate the fluxes of trace metals, nutrients and petroleum-related hydrocarbons. In 1986 samples were collected in other main channels and the fluxes are compared in this report. Samples were taken using both conventional sampling methods and a new microprocessor controlled pump. The sampling techniques are also described.

A Study of the Multiple Ships Track in Ice in Admiralty Inlet, Spring 1986/Norland Science and Engineering Ltd. Wells, D. B et. al. Canarctic Shipping Company Ltd. [Sponsor]. Canada. Department of Indian and Northern Affairs [Sponsor]. Toronto, Ontario: Norland Science and Engineering Ltd., 1987.
xiii, 95 p.: Plates, figures, tables; 28 cm.
Appendix.
Reference.
OORD, NWYIN.

This study investigated whether the broken ice track left by ships might be a barrier to travel by Inuit and also serve to accelerate break-up of ice cover. The report concluded that multiple ship tracks did not impose a serious restriction on the mobility of hunters. The track had only a marginal impact on fracturing and clearing of the ice cover, though under certain environmental conditions it could result in an accelerated clearing of the ice cover. The study recommended a continuation of break-up monitoring using remote sensing.

Geophysical Assessment of Waste Drilling Fluid Containment Sites in the Mackenzie River Valley Region, NWT/Hardy BBT Limited Canada. Department of Indian and Northern Affairs [Sponsor]. (Calgary, Alberta: Hardy BBT Limited, 1988.)
viii, 30 p.: tables, figures; 28 cm.
Appendices.
OORD, NWYIN.

The authors report on the results of a field survey, utilizing geophysical soil conductivity measurements coupled with near-surface soil chemistry analyses, to determine if drilling wastes are migrating away from the boundaries of eight capped sumps. Based on the collected evidence, six of these were rated as having some likelihood of leakage. It appears that poor drilling fluid containment results primarily from factors related to location. The report suggests future studies relating to the potential environmental hazard of leaking sumps at drill sites.

OFFSHORE ENVIRONMENTAL ECOSYSTEMS MONITORING (A.7)

Beaufort Environmental Monitoring Project 1984-1985 Final Report/ESL Environmental Sciences Limited. IGL Limited. ESSA Limited. Arctic Laboratories Limited. Arctic Sciences Limited. Canada Department of Indian and Northern Affairs [Sponsor]
Ottawa: DIAND, 1986.
xci, 162: figures, tables; 28 cm.
(Environmental Studies No. 39)
Appendices.
ISBN 0662-15156-9, Catalogue No. R71-19/38-1986E
OORD, NWYIN.

A report on the second year of the Beaufort Environmental Monitoring Project and recommendations for future environmental research. BEMP activities during 1984-85 included: pre-workshop review of studies initiated since December 1983, preparation of project overviews describing the purposes of these investigations and their relationships to existing BEMP hypotheses, and the conduct of a workshop in February 1985. The main body of the report is a review of new information that was found to be relevant to the BEMP impact hypotheses and includes rationale for the specific research and monitoring recommended.

Distribution of Bowhead in the Southeast Beaufort Sea,
September 1986/U. of Alberta. L.A. Hardwood. P.M. Research Projects.
Norton, P. Canada. Department of Indian and Northern Affairs
[Sponsor].
U.S.A. Department of The Interior [Sponsor].
Sidney, B.C.: P.N. Research Projects,
Edmonton, Alberta: University of Alberta, 1986.
V. 16: figures, tables; 28 cm.
Appendix.
OORD, NWYIN.

Since 1980, the effects of offshore oil and gas exploration on bowhead whales summering within, and migrating through, the Beaufort Sea have been examined. A systematic aerial survey was conducted to monitor the distribution of bowhead in the southeast Beaufort Sea and document the timing and location of the 1986 migration through Alaska waters. Estimated number of bowhead in the region was 2590, congregated in three areas. Data suggests a large-scale movement of bowhead probably did not begin until after the survey has been completed.

Zooplankton and Bowhead Whale Feeding in the Canadian Beaufort Sea, 1986/
LGL Limited. Bradstreet, M.S.W. Thomson, O.H. Canada. Department
of Indian and Northern Affairs.
Ottawa: DIAND, 1987
v, 203: tables, col. iii., figures, maps; 28 cm.
(Environmental studies No. 50)
Appendices.
ISBN 0-662-159357, Catalogue No. R71-19/70-1988E
OORD, NWYIN.

A study of the physical and oceanographic factors influencing zooplankton distribution and availability to bowhead during the summer period. Zooplankton biomass was found to be highest in water unaffected by the Mackenzie River plume. Bowhead avoided these plume areas and fed in areas with zooplankton concentrated into dense subsurface layers where winds induced upwelling of Arctic Ocean water.

Beaufort Environmental Monitoring Project 1985 - 1986 Final Report/LGL Limited. ESL Environmental Sciences Limited. ESSA Limited. Arctic Sciences Limited. Arctic Laboratories Limited. Canada. Department of Indian Affairs and Northern Development [Sponsor].
Ottawa: DIAND, 1987
xix, 199: figures; 28 cm.
(Environmental Studies No. 40)
ISBN 0-662-15 1807, Catalogue No. 271-19/40-1987E
OORD, NWYIN.

BEMP, initiated in 1983, provides the technical basis for design, operation and evaluation of a comprehensive environmental research and monitoring program required to accompany phased hydrocarbon development in the Beaufort Sea. The program is primarily oriented toward offshore biological issues. This report of BEMP activities during the third year of the project also contains recommendations for future environmental studies. Primary activities during 1985-86 were: review of relevant studies initiated or completed since Dec. 1984; preparation of project overviews; conduct of a workshop on bowhead whales in early February 1986; review of research on oil-based drilling fluids; and, revision of hypothesis dealing with these fluids.

Beaufort Environmental Monitoring Project 1986-1987 Final Report/ESL Environmental Sciences Limited. Seakem Oceanography Limited. Canada. Department of Indian and Northern Affairs [Sponsor].
Ottawa: DIAND, 1987
ix, 175: figures; 28 cm
(Environmental studies No. 52)
Appendices.
OORD, NWYIN.

This document describes the results of two workshops held during the fourth year of the BEMP project and presents a review of recently initiated or completed research projects that are relevant to environmental monitoring. The first workshop dealt with the effects of contaminated cuttings discharge on fish, birds and marine mammals. The second evaluated the effects of hydrocarbon development on bowhead whales. A new impact hypothesis was also formulated to address possible westward transport of oil from the Beaufort region during the open-water season.

Yukon Fish and Effects of Causeways / LGL Limited Arctic Science Ltd. Griffiths, W.B. Fischelm, R.G. Gallaway, B.J. Fissel, D.B. Sidney. B.C. : LGL Limited, Arctic Science Ltd., 1988.
xiv, 124 : figures, tables; 28cm.
Reference.
OORD, NWYIN.

A synthesis of relevant information on the effects that causeways in Alaska have had on the distribution, movement and population levels of anadromous fish. The analysis is then combined with data from the Yukon coast to assess the potential impact on fish of coastal structures in this region. A review of the positions and views of U.S. regulatory agencies on the impact of causeways is also provided.

The Potential Effects of Tanker Traffic on The Bowhead Whale in the Beaufort Sea / LGL Limited.
Koski, W.R. Miller, G.W. Davis, R.A. Canada. Dept. of Indian and Northern Affairs [Sponsor].
King City, Ont. : LGL Limited, 1988.
xi, 149 p. : figures, tables ; 28cm.
Appendices.
Reference.
Final Draft.
OORD, NWYIN.

This study integrates existing data to address questions related to the potential effects of tanker traffic on bowhead. The principal topics in the report include; calve distribution, age segregation, harvest interference, and cow-calf separation. Several of these topics relate to questions first identified in a workshop conducted by the Beaufort Environmental Monitoring project sponsored by DIAND.

DISTURBANCE OF MARINE MAMMALS BY INDUSTRIAL ACTIVITY (A.8)

Reproduction in The Bowhead Whale, Summer 1985/LGL Limited. Davis, R.A. Koski, W.R. Miller, G.W. McLaren, P.L. Evans, C.R. Standard Alaska Production Company [Sponsor].
King City, Ontario: LGL Limited; 1986.
xxvi, 176 p: figures, six colored plates, tables; 28 cm.
Appendices.
OORD, NWYIN.

Much of the bowhead whale research has addressed population size and the effects of offshore industrial development. Less is known about population numbers as affected by reproduction and recruitment. This study determined gross annual reproduction rates of the Western Arctic bowhead population. Data was obtained through aerial photography. The field program was hampered by pack ice and poor weather conditions and annual rates of reproduction were estimated from the animals photographed. Calculations suggest that the reproduction rate of bowhead is higher than previously thought.

Arctic Industrial Activities Compilation for The Canadian Beaufort Sea:
Seismic Surveys, Vessel Movements, Aircraft Traffic and Offshore
Marine Activity 1986/PN Research Projects. Norton, P. E.S.L.
Environment Science Ltd. McDonald, J.W. and A. Blyth. Canada.
Department of Indian Affairs and Northern Development.
Sidney, B.C. ESL Environmental Sciences Limited. Edmonton, Alta.,
PN Research Projects, 1987.
vii, 161 p. : tables, figures; 28 cm.
Appendices.
References.
COORD, NWYIN.

The study summarizes all 1986 industrial activities in the Canadian Beaufort Sea. The procedures followed in obtaining and entering the data, in tabulating and graphing the information and in organizing the report are also described. This information is also available from the Northern Environmental Directorate of DIAND, Les Terrasses de la Chaudière, Hull. Québec.

Distribution, Relative Abundance and Behaviour of Ringed Seals in the Beaufort Sea During Late Summer and Fall 1986. / University of Alberta. Harwood, L.A. Canada.
Edmonton, Alta. : University of Alberta, 1987
iv, 28 p. : tables figures; 28 cm.
Appendices.
COORD, NWYIN.

This project focused on natural history, distribution, abundance and ecology of ringed seal during the open water period. The findings are based primarily on data collected during systematic aerial surveys. The study investigated the potential effects of icebreaking activity on ringed seal pup activity; the indirect effects ice breaking on the stability and integrity of ice in seal breeding areas; and, the cumulative effects of vessel, seismic, dredging, aircraft and drilling platform activity on the energy balance of seals.

Continuing Studies of the Eastern Arctic Bowhead Whale at Isabella Bay, Baffin Island, 1986 / IGL Limited. Finley, K.J. World Wildlife Fund Canada [Sponsor]. Canada. Department of Fisheries and Oceans [Sponsor].
Sidney, B.C.: IGL Limited, 1987
vii, 95 p. : figures, tables; 28 cm.
Appendices.
COORD, NWYIN.

Much has been learned during the first three years of studying this relatively unknown concentration of arctic bowhead whales. Field research continued in 1986 on biology and behavior of the bowhead, specific habitat use patterns, population dynamics, and factors affecting survival and recovery. Although persistent poor weather

interfered with conduct of field research, aerial surveys confirmed that bowhead using Isabella Bay are almost exclusively adults. Various shifts in feeding patterns and location were also observed and investigated.

CONTAMINANTS IN THE AQUATIC ENVIRONMENT & QUALITY OF
FOOD SPECIES (A.12)

Heavy Metal and Organic Contaminants in Arctic Marine Fish / Department of Fisheries and Oceans, Freshwater Institute. Muir, D. et. al. Canada. Department of Indian and Northern Affairs [Sponsor]. Ottawa : DIAND, 1986.

iii, 64 : figures, tables: 28 cm.

Appendix.

References.

ISEN 0-662-15210-7 Catalogue No. R71-19/42-1987E.

COORD, NWYIN.

This report provides preliminary baseline data on contaminants in arctic marine fishes and serves to assess problems associated with increased industrialization. Marine fish tissue from seven locations were analyzed for heavy metals and other contaminants. With the exception of high cadmium levels in certain marine species, heavy metals were present at lower concentrations than found in northern freshwater species. A considerable variation in metal concentrations between fishes was noted, though no major geographical trends in these levels were evident.

Second Cumulative Data Report of Studies to Determine Whether the Condition of Fish From the Lower MacKenzie is Related to Hydrocarbon Exposure / Department of Fisheries and Oceans, Freshwater Institute. Lockhart, W.L. Metner, D.A. Murray, D.A. Danell, R.W. Billneck, B.N. Baron, C.L. Muir, D.C.G. Chang-Kue, K. Canada. Dept. of Fisheries & Ocean [Sponsor]. Canada Department of Indian and Northern Affairs [Sponsor].

Winnipeg, Man.: DFO, Central and Arctic Region, Freshwater Institute, 1987.

Appendix.

References.

COORD, NWYIN.

The study continues an investigation of whether deterioration in fish quality, specifically livers in burbot and whitefish flesh, has an objective, measurable basis, and could be related to oil industry operation at Norman Wells. The study concluded that the cause of the liver condition is unlikely to be exposure to petroleum hydrocarbons, although this was not ruled out conclusively. The study noted contamination of Mackenzie River fish with low levels of several compounds, notably toxaphene, chlordane, and PCBs. The northern whitefish had higher water content and lower fat content than most other whitefish.

Cameron Island Benthos - Preliminary Baseline Community Description
LGL Limited. Cross, W.E. Canada. Department of Indian and Northern
Affairs. [Sponsor].
King City, Ont.: LGL Limited, 1986.
x, 47 p : figures, tables : 28 cm.
Appendices.
OORD, NWYIN.

Preliminary data is presented on shallow water benthic communities and hydrocarbon concentrations in sediments and benthos from Cameron Island in the High Arctic. Data was collected in August 1985 from Panarctic's Bent Horn loading facility and compared to a control site several kilometres away. Results provide a baseline with which to compare any future changes resulting from releases of oil at the loading area. Analysis of a larger number of samples was recommended.

Handling of Waste Drilling Fluids from On-land Exploratory Drilling in the Northwest Territories and Yukon/Hardy BBT Limited. Canada. Department of Indian and Northern Affairs [Sponsor]
Calgary, Alta : Hardy BBT Limited, 1987.
iv, 56 p. : tables : 28 cm.
Appendices.
OORD, NWYIN.

This study reviews methods of handling waste drilling fluids from on-land petroleum exploration in the Northwest Territories and Yukon. A major question addressed by this study was whether the current practice of total containment is operationally acceptable. This report makes a number of recommendations aimed at improving present practices and investigating new practices such as decanting. The results of a two-day joint workshop are also discussed here.

IMPACTS OF OIL AND GAS ACTIVITIES ON CARIBOU (A.13)

Porcupine Caribou Harvest by Canadian Users, June 1986 - December 1986 / Quock, R. Carey, J.
Yukon Department of Renewable Resources [Sponsor].
Whitehorse, Yukon : Dept. of Renewable Resource : 1987
7 leaves : tables: 28 cm.
References.
OORD, NWYIN.

Information on the Porcupine herd is required to assess the impact of increased hunting pressure as a result of improved access. Harvest data is used to manage wildlife and for cooperative management among users. Reported here is the estimated 1986, June - December harvest of caribou by Canadian users. 1985 data is presented for comparison.

Statistics were gathered through field interviews, check station questionnaires and declaration forms.

SURFACE AND SUBSURFACE DISTURBANCES INDUCED BY OIL AND GAS ACTIVITY (A.17)

Norman Wells Pipeline Monitoring Sites Ground Temperature Data File ;
1986/Burgess, M.M. Ottawa: Geological Survey of Canada, 1987
24 p. : figures, tables ; 28 cm.
(Geological Survey of Canada open file 1621)
Appendices.
References.
OORD, NWYIN.

A cooperative long-term ground thermal regime monitoring program, along the Norman Wells to Zama pipeline, was established in 1983 to examine the effects of construction and operation on permafrost and terrain condition and evaluate approaches used to minimize terrain disturbance. Thirteen main monitoring sites were instrumented. This report provides a collection of the 1986 data presented in tabular form and as plots of ground temperature.

BEAUFORT SEA SHORE BASE MONITORING PROGRAM (A.20)

Sewage Waste Discharge to the Arctic Marine Environment Final Report / Stanley in Association with Dobrocky Seatech. Canada. Department of Indian and Northern Affairs [Sponsor].
Yellowknife, NWT : Stanby Associates Engineering Ltd., 1987.
vi, 1.2, 2.12, 3.43, 4.36, 5.8, 11 leaves : tables, figures ; 28 cm.
References.
OORD, NWYIN.

This study identifies key environmental issues related to the discharge of sewage effluents to Arctic marine environments, and examines sewage treatment options for Arctic and High Arctic conditions. A review of the principal constituents of sewage and their potential environmental effect is provided and results are applied to three potential effluent sources: 1) marine vessels; 2) offshore facilities; and 3) shore-based facilities and communities. The study contains specific recommendations on policies, guidelines and treatment technology.

Evaluation of Protocol to Test Toxicity of Mineral Oil and Mineral Oil-based Drilling Fluids / Leader, C.C. Osborne, J.M. Canada. Department of Indian and Northern Affairs [Sponsor]
Environmental Canada : Environmental Protection Service, 1987.
iv, 35 p. : tables, figure; 28 cm.
References.
OORD, NWYIN.

The current protocol for preparing a water-soluble fraction (WSF) from mineral base oil and testing its toxicity was evaluated. Results indicated no significant difference between the parameter combinations in degree of toxicity or oil/grease and total suspended solids content. It recommended that the current protocol for obtaining and testing a mineral base oil's WSF continue to be followed. It also recommended that a standard procedure for testing toxicity of drilling fluids be developed.

FISHERIES AND OCEANS

Science Sector

HYDROGRAPHY, MACKENZIE RIVER (B.5)

Hydrographic Survey of Mackenzie River - Final Field Report 1986 /
Terra Survey Limited. Canada. Dept. of Fisheries and Oceans
[Sponsor]
Sidney, B.C. : Terra Surveys Limited, 1986.
32 p. : chart, table ; 28 cm.
OORD.

A hydrographic survey was carried out to produce navigation charts of the Mackenzie River from Great Slave Lake northward to kilometre 208. The survey was conducted for chart portrayal at a scale of 1:50,000 except around Fort Providence where a scale of 1:25,000 was used. Horizontal control was established to third order specifications using GPS techniques for all sounding control points as well as fixed aid to navigation. Water level and staff gauges were installed to monitor seasonal water level variations. In 1986 TERRA surveyed ten field sheets and in 1987 produced four new Mackenzie River strip charts.

BEAUFORT SEA OCEANOGRAPHY (B.6)

Beaufort Sea Current Measurements, March-August 1987 : Volume I: Beaufort Sea / McCullough, D. Macdonald, R.W. Iseki, K. Carmack, E.C.
Sidney, B.C. : Institute of Ocean Sciences, 1988.
v, 42 p. : tables, plates, figures; 28 cm.
(Canada Data Report of Hydrography and Ocean Sciences No. 60)
Appendices.
References.
ISSN 0711-6721 Cat. No. Fs 97-16/60
OORD, BVTEM.

As part of the program to determine hydrocarbon pathways and primary productivity of the Mackenzie Shelf, four subsurface moorings were deployed, comprised of a pair of current meters and a sequential sediment trap, along the 200 meter contour of the Beaufort Sea. The measurements are summarized in the report as time - series plots, at fixed depths, of temperature, salinity current speed, current direction and light transmission.

Physical Data Collected in the Beaufort Sea, September 1986 /
Cuyers, L.E. Blaskovich A.W. Carmack, E.C. Macdonald, R.W. Sidney,
B.C. : Institute of Ocean Sciences, 1988.
v, 149 p. : tables, plots, figures ; 28 cm.
(Canadian Data Report of Hydrography and Ocean Sciences No. 59)
Appendix.
References.
OORD, BVIEM.

This study reports on a cruise carried out in September 1986 to determine hydrocarbon pathways and primary productivity of the Mackenzie Shelf. Supporting physical oceanographic data, including temperature, salinity, light transmission and attenuation, density, departure from freezing point, and dynamic height are reported.

Data Report: NOGAP B.6; Beaufort Sea Oceanography, September, 1986 /
Macdonald, R.W. Iseki, K. Carmack, E.C. Macdonald, D.M. O'Brien,
M.C. and McLaughlin, F.A.
Sidney, B.C. : Institute of Ocean Sciences, 1988
v, 68 p. : tables, figures, plots; 28 cm.
(Canadian Data Report of Hydrography and Ocean Sciences No. 58)
Appendices.
References.
Cat. No. Fs 97 - 16/58 ISSN 0711-6721
OORD, BVIEM.

A cruise to the Beaufort Sea was carried out in September 1986. Reported here are the supporting geochemical measurements, including salinity, temperature, nutrients, oxygen isotopes, chlorophylla, total suspended solids, particulate organic carbon and nitrogen, and bacterial enumeration.

Provision of Hydrocarbon Measurements for the NOGAP B.6 Program:
Phase Partitioning by Crossflow Techniques/ Department of
Oceanography. Whitehouse, B.G. Wangersky, P.J. Canada Dept.
Fisheries and Oceans [Sponsor]
Halifax, N.S. : Dalhousie University, 1988.
ii, 20 p. : tables; 28 cm
(Final Report)
OORD, BVIEM.

This program investigated solid/liquid phase partitioning of hydrocarbons in Mackenzie River Delta by designing, assembling, and deploying a crossflow filtration apparatus capable of physically separating the colloidal and dissolved fractions. Also included was the assembly and deployment of a prefiltration system capable of retaining particles greater in size than 1.2. cm.

The 1987 Seasonal Ice Cycle in the Beaufort Sea / G.A. Borstad Associates Ltd. Borstad, G.A. MacNeill, M.R. and Armstrong, L.L. Institute of Ocean Sciences [Sponsor]
Sidney, B.C. : G.A. Borstad Associated Ltd., 1988
iv, 45 : figures ; 28 cm.
Appendices.
OORD, BVIEM.

This study of ice behaviour and concentration in the southeastern Beaufort Sea provides a 1987 time series of behaviour. A series of black and white satellite images were examined for changing ice patterns. The report includes the following: a qualitative description of the seasonal ice cycle; a comparison of 1987 meteorological data from Herschel Island, Pelly Island, and Cape Bathurst with the ice dynamics; a time series of approximate ice coverage data; and, a comparison of ice behaviour in 1987 to other years.

Distribution of Particulate Matter in the Southeastern Beaufort Sea in Late Summer / Isek, K. Macdonald, R. Carmack, E. Canada. Dept. of Fisheries and Oceans [Sponsor].
Tokoyo : National Institute of Polar Research, 1987.
p. 35-46 : tables, figures : 26cm x 18 cm.
(Reprint from NIPR Symposium on Polar Biology No. 1)
References.
OORD, BVIEM.

Forty-one stations were established for measurements of suspended particulate matter (SPM), chlorophyll-a (chl-a), and particulate organic carbon (POC) in the southeastern Beaufort Sea in September 1986. Preliminary results indicate that both the Mackenzie River and sediments in the nearshore are major particulate sources to the surface layer of the inner shelf. Compared to the Arctic Ocean, water over the Mackenzie Shelf has POC concentrations almost an order of magnitude higher throughout the water column. This is probably a result of organic particles added to the surface layer by river input and phytoplakton production with subsequent settling into deeper water during the open-water season.

Phytoplankton Productivity in the Mackenzie Estuary of the Beaufort Sea
1987 / S. Jasper Consulting. Jasper, S.
Canada. Dept. of Fisheries & Oceans [Sponsor].
North Vancouver, B.C. : S. Jasper Consulting, 1988.
References.
OORD, BVIEM.

A phytoplankton productivity study was conducted in the Mackenzie Estuary of the Beaufort Sea from April to September, 1987. An incubator method was used to examine the photosynthesis vs light (P-I) response of phytoplankton throughout the euphotic zone at several stations during the year. A microcomputer program incorporated these (P-I) curves, with chlorophyll data, downwelling and continuous surface irradiances, and produced estimates of productivity. Real productivities were extremely low during the spring (ice-covered) season, reaching maximum levels at the end of July. Dramatic changes were found in the water column production profiles throughout the year. Recommendations are provided for future work.

Phytoplankton Species with Quantitative Data on Cell Numbers, Cell Volume and Cell Carbon from Samples Collected during September 9-14, 1986 in the Beaufort Sea for the NOGAP project / Acreman, J. Canada Supply & Services [Sponsor]. Canada-Fisheries and Oceans Canada, Institute of Ocean Science. [Sponsor].
Toronto : Judy Acreman, 1987
38 p. : tables ; 28 cm
References.
OORD, BVIEM.

Thirty-five samples of phytoplankton were collected in September 1986 from 15 stations in the Beaufort Sea. Samples of approximately 200 ml., preserved with iodine, were analyzed by the author for species content. Of the 35 samples examined, 17 of these were further analyzed to determine cell volumes, from which cell carbon estimates were then made.

The Distribution of Nutrients in the Southeastern Beaufort Sea :
Implications for Water Circulation and Primary Production /
Institute of Ocean Sciences. MacDonald, R.W. Wong, C.S. Sookam
Oceanography Limited. Erikson, P.
Canada. : Dept. of Fisheries and Oceans [Sponsor].
2939-2952 p. : figures, tables ; 28 cm.
(Journal of Geophysical Research, Vol. 52. No. C3, pages 2939-2952,
March 15, 1987)
References.
OORD, BVIEM.

Hydrographic data collected above the shelf and slope in the southeastern Beaufort Sea show marked contrast in nutrients, temperature, salinity and oxygen between August 1974, a year when ice remained close to shore, and August 1975, a year with open

water. The near-surface properties were dominated by river inputs, biological activity, and the ice regime. Below the winter-mixed zone, properties are similar to elsewhere in the Arctic ocean. Upwelling likely results from interaction of coastal circulation with topography. Productivity estimates are included.

ENVIRONMENT CANADA

Environmental Protection Service

NORTHERN MARINE PIPELINE CONTROL TECHNOLOGY (C.1)

Northern Marine Pipeline Control Technology/Monenco Consultants.

Calgary, Alta. : Monenco Consultants Ltd., 1987.

xvii, 306 p. : tables, figures: 28 cm.

References.

OORD, YWEEP, AEEPS, OOFF.

The harsh environment of the Arctic present major challenges in installing arctic offshore pipelines. This report describes current marine pipeline technology as it relates to the arctic environment and discusses the environmental and technical implications and information gaps associated with marine pipeline construction and operation. Recommendations are included for developing environmental guidelines and codes of practice for construction, operation and monitoring of offshore pipelines.

CRITERIA FOR THE CONTROL AND MONITORING OF PETROLEUM DEVELOPMENT IMPACTS ON THE MACKENZIE RIVER (C.2)

Final Report on Hydrocarbon Pathways in the Mackenzie River, NWT / Nagy, E. Ongley, E.D. Carey, J.H. Canada Centre for Inland Waters, Environment Canada [Sponsor].

Burlington, Ont. : Environment Canada, National Water Research Institute, 1988.

12 p. : tables, figures, 28 cm.

References.

OORD, NWYEEP.

A baseline assessment of Mackenzie River water quality is provided by characterizing hydrocarbon chemistry of water and suspended sediments; evaluating the use of water and suspended sediments for hydrocarbon monitoring; and, determining downstream trends in hydrocarbon chemistry. Results indicate presence of n-alkanes and PAH's in sediments and water column throughout the study area. Organic loadings are shown to vary significantly with the seasonal variation of the flow of the river. Methods, techniques and difficulties in water quality assessment are discussed.

Assessment of Freshwater Impacts from the Norman Wells Oilfield
Development: Part III : Volume I, text ; Volume II, tables,
figures, and appendix / E.S.L. Environmental Sciences Limited for
the Sea Kem Group and P. McCart Biological Consultants Limited.
Canada. Environmental Protection Service Yellowknife [Sponsor].
Seattle, Washington: ESL Environmental Sciences Limited, 1987.
2 v. (59 p., A.40) : figures, tables ; 28 cm.
Appendix.
OORD, NWYEEP.

A review of relevant literature, sampling of Mackenzie River water
and suspended sediment, and further evaluation of burbot by
qualitative and chemical measures is provided . The study concluded
that burbot liver problems have an objective basis. Chemical and
other analyses did not find a statistically significant relationship
between liver problems and hydrocarbon exposure. Effluent from the
Norman Wells refinery was found not to make a significant difference
to hydrocarbon levels which occur naturally in the river system.

An Assessment of Freshwater Impacts from Petroleum Hydrocarbons on the
Mackenzie River at Norman Wells, N.W.T. : Part IV / Steve E.
Hurdey & Associates Ltd. Canada. Environment Protection Service
[Sponsor]
Edmonton, Alta. : Steve E. Hurdey & Associates Ltd. ; 1988.
xii, 106 : figures, tables; 28 cm.
References.
OORD, NWYEEP.

The Environmental Protection Service undertook here to develop
criteria for protecting Mackenzie River aquatic resources from
development impacts and to provide recommendations on contaminant
monitoring. This report summarizes the findings of this research
effort and recommends development of monitoring programs as well as
further research.

POINT SOURCE IMPACT MONITORING TECHNIQUES -
MARINE BENTHIC ENVIRONMENT (C.3)

Survey of Benthic Infauna at Beaufort Sea Shorebase Sites / Sackman, T.
Yellowknife, N.W.T. : Environment Protection Service, 1987.
iv, 39 p. : figures, tables ; 28 cm.
Appendix.
OORD, NWYEEP.

This project, initiated in 1982, identifies and monitors impacts of
industrial development on the Tuktoyaktuk Peninsula. Benthic
infauna samples were collected and compared with various locations
in 1982 and 1984. Attention focussed on McKinley Bay, Hutchinson
Bay and Tuktoyaktuk Harbour. Dominant species and numbers appeared
to differ widely between these locations.

The Tuktoyaktuk Harbour Benthic Biological Monitoring Programme /
Seakem Oceanography Ltd. Canada. Environment Canada [Sponsor].
Sidney, B.C. : Seakem Oceanography Ltd., 1987.
iii, 3.8 : table, figures ; 28 cm.
Appendices.
OORD, NWYEEP.

The first of three sampling surveys are reported here. These assessed the effects of chronic contaminant inputs into the harbor on benthic fauna and methods of studying effects suitable for wider application. Preliminary results indicate that both the starry and arctic flounders are under stress. The arctic flounder had greater incidence of degenerating, preneoplastic or neoplastic lesions. The exposure to petroleum is further supported by the presence of PAH metabolites.

OCEAN DUMP SITE DESIGNATED FOR SOLID & CONTAMINATED WASTES (C.4)

Beaufort Sea Ocean Dumpsite Characterization / IGL Limited. Arctic Laboratories Ltd. Canada. Environment Protection Service [Sponsor]
Sidney, BC : Arctic Laboratories Ltd;
King City, Ont. IGL Limited, 1987
xi, 100 p. : figures, table ; 28 cm
Appendices.
OORD, NWYEEP.

This study characterized the sediments of two potential ocean dumpsites and surveyed for benthic infaunal, epifaunal populations and fish. The seabed was characterized using side-scan sonar coverage for bathymetry, profile, sediment, trace metal and hydrocarbon content. During a one week cruise involving 30 locations, samples were taken with a Smith-McIntyr grab. Otter trawls were also carried out to sample epibenthos and bottom fish. This field program also tested Hoff and Thomas (1986) predictions concerning both sampling size for each contaminant and applicability of the sediment grain size/contaminant relationship.

BEAUFORT ATLAS : BACKGROUND INFORMATION FOR IMPLEMENTING MARINE OIL SPILL COUNTER MEASURES (C.6)

Environment Atlas for Beaufort Sea Oil Spill Response / D.F. Dickins Associates Ltd. ESL : Environmental Sciences Limited. In Association with IGL Limited Erickson Associates SL Ross Environmental Research Ltd. Dobrocky Seatech Ltd. PN Research Projects.
Canada : Environmental Protection Services [Sponsor].
Vancouver, B.C. : D.F. Dickins Associates Ltd., 1987
v, 182 p. : col. maps, tables, figures; 22 cm x 30cm.
Appendices.
References.

ISBN 0-921-623-03-8

OORD, NWYEEP, AEEPS, BVAEP, OOFF, YWEEP.

A synthesis of environmental information relevant to the planning and implementation of year-round oil spill countermeasures in both coastal and offshore areas of the Beaufort Sea is provided in atlas format. The atlas presents key information in concise, graphic form with supporting text and finds application in developing effective contingency plans for the Beaufort area. It also serves as a source document for oil spill training exercises and a field reference in actual spill situations. The study area covers the southern Canadian Beaufort Sea from the United States / Canada border to the Baillie Islands.

Modeling of Oil Spills in Snow. Draft Report / S.L. Ross Enviro.
Research Limited. Environment Canada [Sponsor]
OTTAWA : S.L. Ross Environmental Research Limited, 1988.
iii, 35 : tables, figures ; 28cm.
References
OORD, NWYEEP.

The author reports on development of equations for modelling the fate of oil spills in snow. A literature survey was undertaken to assess data gaps. Based on the results of this survey, field experiments were conducted to collect data on oil evaporation rates beneath snow, oil transport by blowing snow and oil spread beneath snow. The results of these tests and data from the literature review were used to develop equations to describe spreading and evaporation rates.

Environmental Conservation Service

MIGRATORY BIRD DISTURBANCE, ASSESSMENT AND MANAGEMENT (C.7)

Preliminary Assessment of the Effects of the Proposed Gas Pipeline and other Hydrocarbon Development Projects on Waterfowl of the Northern Mackenzie Valley / Boothroyd, P. Environment Canada [Sponsor]
Manitoba: Canadian Wildlife Service, 1987
vii, 112 : figures, tables; 28 cm.
(Technical Report Series no. 22, Western & Northern Region 1987, Canadian Wildlife Service)
Appendices.
OORD, AEECW, OOFF.

This study collected seasonal data on waterfowl densities along the proposed mainline and lateral pipeline routes to determine potential impacts on waterfowl. Aerial surveys were conducted along the proposed routes. The highest bird density occurred in the northernmost segment of the main pipeline route, particularly Richards Island. The study makes recommendations for the protection of waterfowl populations and important habitat.

Breeding Bird Survey of Coastal Islands of the Outer Mackenzie Delta and Northern Tuktoyaktuk Peninsula, 1987/Alexander S.A. Hawkings, J.S. Alberta : Canadian Wildlife Service, 1988
iv, 20 : figures, tables ; 28 cm
(Technical Report Series No. 39, Western & Northern Region 1988, Canadian Wildlife Service)
OORD, AEECW, OOFF.

Helicopter surveys for colonial nesting birds on islands along the Beaufort coast were conducted in June 1987 to corroborate with other studies. The number and locations of nests of glaucous gulls, common eider, king eider, brants, sabine gulls, arctic terns and oldsquaw are noted.

Fall Migration and Staging of Phalaropes and Other Waterbirds in the Vicinity of Nunluk Spit, Yukon Territory, 1987 /
Ealey, D.M. Alexander, S.A. Croft, B.
Alberta : Canadian Wildlife Services, 1988
ix, 69 : tables, figures; 28 cm.
Appendices.
References.
OORD, AEECW.

This study examined the importance of Nunluk Spit to phalaropes and gathered information on the pre-migratory and migratory activities of all water-associated birds in the area. Ground surveys were regularly conducted along the spit, and aerial surveys were conducted along the coastline. Habitat use and distribution of birds were documented. Sixty-eight species were observed during the study.

Key Areas for Birds in Coastal Regions of the Canadian Beaufort Sea. (2nd Edition) / Canadian Wildlife Service. Alexander, S.A. Barry, T.W. Dickson, D.L. Prus, H.D. and Smyth, K.E.
Edmonton, Alta : Canadian Wildlife Service, 1987
vi, 152 p. : 28 cm. and map volume (9 p. : map : 28 cm. and 42 cm).
Appendices.
References.
OORD, AEECW.

The object of this project was to develop a series of maps which identify the key areas for birds along the Beaufort Sea coast. This atlas was primarily designed to enable quick responses in the event of an oil spill in the Beaufort Sea region. The region covered by this atlas extends east along the Beaufort Sea coast from the Alaska/Yukon border to the Bathurst Peninsula. Emphasis was on the nearshore waters and the land below the storm tide level. Information on birds using offshore and above the storm tide line land are also reviewed and summarized. A four color code system was developed to highlight which areas were most important to bird species.

Shorebirds of the Outer Mackenzie Delta / Richard Islands Area 1985-1986

Dickson, H.L. Smith, A.R.

Saskatoon, Sask. : Canadian Wildlife Service,

Edmonton, Alta. : Canadian Wildlife Service, 1987.

185 p. : figures, tables; 28 cm.

Appendices.

Reference.

OORD, AEECW.

This study reports on the distribution, abundance and habitat requirements of arctic-breeding shorebirds species. Data on the shorebirds was gathered from the outer Mackenzie Delta and Richards Island area in 1985 and 1986 with emphasis on selected species. Landsat analysis was conducted in conjunction with ground vegetation and bird data. Results indicate that Landsat is capable of identifying the shorebird staging and nesting areas.

PORCUPINE CARIBOU SUMMER RANGE (C.9)

The Summer Ecology of the Porcupine Caribou Herd in Northern Yukon/

Canadian Wildlife Service. Russell, D. Nixon, W.

Whitehorse, Yukon : Canadian Wildlife Service, 1988

v, 152 tables, figures; 28 cm

Appendices.

References.

OORD, YWEEP.

The object of this study was to define and identify critical caribou habitat in Northern Yukon to better predict impact of human activity. The study investigated vegetation complexes, insect activity and regional weather patterns. It also assessed caribou efforts to minimize harassment, documented activity budgets, habitat selection and food habits. These factors were then used to explain movement and behaviour of the herd during the summer period.

Atmospheric Environment Service

BEAUFORT SEA FORECASTING TECHNIQUES (SEASTATE FORECAST MODEL) (C.16)

Forecasting Beaufort Sea Wind Waves by Momentum Balance Method - Further

Hindcast Studies/MacLaren Plansearch Limited. Atmospheric
Environmental Services [Sponsor].

Halifax, N. W.: MacLaren Plansearch Limited, 1987

iv, [115 p]: figures, tables; 28 cm.

(Final Report)

Appendices.

References.

OORD, OTM.

The authors describe the development of a wave forecast model for the Beaufort Sea based on transformation of the Great Lakes Environmental Research Laboratory model (GLERL) into the Beaufort Sea Wave Model, Version 2 (BSWM2,). An extensive model evaluation was conducted by compiling error statistics on performance based on a long period and several short period storm events simulations. The BSWM2 has provided encouraging results and will be capable of being used to provide Beaufort wave forecasts provided recommendations on application are addressed.

Beaufort Sea Specialized Data Base: Report for 1987/88 Fiscal AES Western Region. Edmonton: Atmospheric Environmental Services, 1988.
v [117 p] (loose-leaf): figures; 28 cm.
Appendices.
OORD, OTM.

The main project objective is to increase the climatological data base in the area of the Beaufort Sea and make the results available to those charged with providing meteorological support for offshore exploration activities. This report presents an overview of the network including a description of the meteorological platform. The appendices contain information on individual stations including monthly statistics on wind, temperature and direction.

Beaufort Sea Specialized Data Base/AES Western Region.
Parker, N. 1987.
Edmonton : AES Western Region, 1987.
iii, 11 p: figures, table; 28cm.
OORD, OTM.

The data provided by this three year study will aid in the development of improved climatologies and support the provision of real time weather warnings and advisories for the Beaufort Delta exploration and production area. This report describes the network as of March 1987. Logistics of establishment, data collection, processing and archiving, along with proposed station modifications are discussed.

BEAUFORT SEA ATMOSPHERIC DISPERSION CHARACTERISTICS (C.19)

Analysis of Pressurized Air Sample from Inuvik, N.W.T., for Ambient Hydrocarbons by Gas Chromatography - Flame Ionization Detection (GC-FID)/Concord Scientific Corporation. Brice, K.A.
Calgary, Ottawa, Toronto: Concord Scientific Corporation, 1986
[17 p]: tables, figures; 28cm.
References.
OORD, OTM.

The Atmospheric Environment Service (AES) conducted a limited, exploratory study in December 1985 of the ambient light hydrocarbon composition in and around Inuvik, N.W.T. A series of stainless steel sampling canisters were pressurized with samples of ambient

air using an inert pump, and stored for subsequent determination for C₂-C₅ speciated hydrocarbons by gas chromatography - flame ionization detection. (GC-FID). This report addresses the experimental aspects of canister sampling and analytical methods employed, and presents the calculated ambient mixing ratios for the dominant hydrocarbon components.

NOGAP Meteorological Tower Data Analysis/

Fanaki, F. Deary, J. Martin, B. Markes, J.

Downsview, Ontario: Atmospheric Environmental Services, 1987

88 p.: tables, figures; 28cm.

OORD, OTM.

Meteorological data obtained from the CBC tower at Inuvik, N.W.T. have been analyzed to provide a statistical relationship for various meteorological parameters. Using the Marine Statistics Software Package and the Duration Statistics Software Package, developed by the Atmospheric Environment Service, the tower data are analyzed and displayed graphically. The analysis includes wind and temperature statistics and atmospheric stability. Unique air quality features are identified.

Radiation Measurements at Inuvik, N.W.T./Martin, B. Markes, J.

Downsview, Ontario: Atmospheric Environmental Service, 1987

278 p.: tables; 28cm.

OORD, OTM.

A report on data collection of radiation measurements. The equipment and method adopted in collecting the measurements is briefly described. The data is presented in table format showing one-hour averaged values of incoming and reflected shortwave radiation and net shortwave radiation.

Summer Field Study, July 1985: Volume I, Study and Analysis;

Volume II, Data / Fanaki, F. Martin, B. Markes, J.

Downsview, Ontario: Atmospheric Environmental Services, 1987

2v. (vi, 60p.; 238p): figures, col. ill., tables; 28cm.

References.

OORD, OTM.

A short duration field study of pollution potential in the Beaufort Sea area. Coordinated sets of measurements were conducted simultaneously at Inuvik and Tuktoyaktuk, including vertical sounding of the atmosphere for wind and temperature profiles, continuous acoustic sounder measurements, the dispersion of an industrial plume and the measurements of particulate concentration. Volume I describes the study program and analysis. Volume II contains all data collected.

THERMAL EFFECT OF SOIL AND VEGETATION DISTURBANCE (C.20)

Studies of the Environmental Effects of Disturbances in the Subarctic/
Kershaw, G. P. Canada. Department of Agriculture [Sponsor].
Edmonton: University of Alberta; 1988
97p.: figures, tables; 28cm.
COORD, AEEPS.

The objective of this project was to define, evaluate, and quantify the short-term physical and thermal changes in the permafrost-active layer as a result of human disturbance. Disturbance of the vegetation cover results in degradation of the near-surface permafrost and the thermal inequilibrium leads to subsidence and erosion. The degradation of the near-surface permafrost within the first two years following disturbances is shown to be considerable. Findings also indicate that the physical and thermal instability of the terrain from human-induced perturbations has important implications for buried pipelines.

Studies of the Environment Effects of Disturbances in the Subarctic
(S.E.E.D.S.)/Kershaw, G.P. Canada Department of Agriculture
(Sponsor.)
Edmonton: University of Alberta, 1987.
45p.: figures, tables; 28cm.
(Year End Report 1986-87)
Appendix.
Reference.
COORD, AEEPS.

In 1985 a simulated pipeline corridor was installed near Fort Norman, N.W.T. Within it, a deep trench was excavated. Seeding and fertilization rates were replicated on trench segments. Revegetation treatments were designed to provide viable alternative reclamation practices for dealing with disturbances. Performance is assessed providing data applicable to the development of an ecosystem model for the design of future reclamation/rehabilitation programmes.

DEPARTMENT OF ENERGY MINES AND RESOURCES

Geological Survey of Canada

ARCTIC ISLAND CHANNEL GEOTECHNICS (D.2)

A Small Boat Seismic Reflection Survey of the Loughheed Island Basin-Cameron Island Rise-Desbaretts Strait Region of the Arctic Island Channels Using Open Water Leads/Atlantic Geoscience Centre. Sonnichsen, G.V. and Vilks, G. Canada. Energy Mines and Resources [Sponsor].

Dartmouth, N.S.: Bedford Institute of Oceanography, 1987.

9 p.: figures; 28cm.

References.

OORD, NSDB.

In July and August of 1986, a marine seismic reflection and sampling program was conducted in selected Arctic island channels using helicopter-transported inflatable boats in open water leads. This experimental technique allowed collection of the first continuous seismic reflection data in the region, as well as gravity cores and bottom photographs at four stations.

Cruise Report of CSS HUDSON Cruise 86-027/ Atlantic Geoscience Centre. MacLean, B. Canada. Energy, Mines and Resources [Sponsor].

Dartmouth, N.S.: Bedford Institute of Oceanography, 1987.

23 p.: figures, tables; 28cm.

Appendix.

OORD, NSDB.

A preliminary outline of the geological data obtained on Cruise 86-027 of the CSS Hudson from August 25 to September 26, 1986. Extensive geologic information was obtained for Wellington Channel, Byam Martin and Austin Channels, eastern Barrow Strait, as well as reconnaissance data in Sophia and northern Queens Channels and at various localities along the north side of Parry Channel south of Melville and Bathurst Islands. These areas represent active and potential oil transportation routes. With the exception of parts of eastern Barrow Strait, little or no regional marine geological data of the type acquired previously existed for the regions surveyed during this cruise. This report also contains data on coastal zone sites in the central Queen Elizabeth Islands as well as geothermal data.

GOVERNMENT OF THE YUKON

Department of Education, Yukon Archives

BEAUFORT HYDROCARBON INFORMATION ACQUISITION AND PROCESSING (G.2)

Hydrocarbon Development: A Yukon Perspective: An annotated bibliography of sources available in the Yukon Archives Volume 2 / Raines, M.R. Yukon. Department of Education. Yukon Archives [Sponsor]. Whitehorse, Yukon: Yukon Archives, 1988
569 p; 28cm.
YWA, YWLS, OORD.

Volume two provides a bibliographic survey of information located in the Yukon Archives related to northern hydrocarbon development. The geographic emphasis is the Yukon and Beaufort Sea, but the Northwest Territories and Alaska, as well as some east coast exploration and production material, is also included where relevant. There are 911 entries for both published and unpublished works grouped by title into broad subject categories.

Executive Council Office

DATA DEVELOPED IN RELATION TO BEAUFORT HYDROCARBON
DEVELOPMENT REQUIREMENTS (G.3)

Yukon Statistical Profile/Yukon Territory. Bureau of Statistics. Whitehorse, Yukon: Yukon Territory, Bureau of Statistics, 1986-87
c.a. 500 p.: tables, 28cm.
OORD, YWA.

The statistical profile is a comprehensive reference document on the Yukon's geography, population, economy and government. It assembles statistical data into a readily available format.

Yukon Spatial Price Survey, June 1986/ Yukon Territory, Bureau of Statistics. Whitehorse, Yukon: Yukon Territory, Bureau of Statistics, 1986
67 p.: figures, tables, 28cm.
OORD, YWA.

A price survey of Whitehorse, Edmonton and Vancouver is presented here in summary form. The prices of consumer goods and services are compared. Prices for identical to directly comparable items are collected and combined to form price indices.

Revised Population Estimates of the Yukon, June 1, 1987
Yukon Territory, Bureau of Statistics. Whitehorse, Yukon: Yukon Territory, Bureau of Statistics 1988.
17 p.: tables, figures; 28cm.
OORD, YWA.

An estimate of Yukon population based on the number of persons registered in the Yukon Health Care Insurance Plan. The estimate for June 1st was 27,302. There are approximately 12% more males than females. A breakdown of age groups is also provided.

Yukon Data Book 1986-87. A Complete Information Guide to Yukon and its Communities / Yukon Territory Bureau of Statistics. Daphne Ross. Whitehorse, Yukon: Outcrop Yukon Ltd., 1986. 135 p.: photos, maps, tables; 28cm. ISBN-0-919315-17-8. YWLS, YWA, OORD.

The Data Book furnishes comprehensive and timely statistics on the Yukon and communities. Detailed profiles are provided for 18 Yukon communities. Information includes history and demography, economy and services. Maps, tables and bibliography are also included.

Statistical Review. Fourth Quarter 1987 / Yukon Territory. Bureau of Statistics. Whitehorse, Yukon: Bureau of Statistics, 1988. iii, 88 p.: figures, tables, 28cm. ISSN 829-6421. YWLS, YWA, OORD.

This review is published quarterly. Data originates from government, industry and private sources. Statistics presented include: population, employment, consumer prices, rental units, real estate, construction, resources, trade, and transportation.

Family Allowance Summary Report 1980-1987 / Yukon Territory Bureau of Statistics. Whitehorse, Yukon: Yukon Territory, Bureau of Statistics, 1988. 39 p.: figures, tables; 28cm. Appendices. YWLS, YWA, OORD.

The Family Allowance Summary Report is published yearly by the Yukon Government. Data is derived from Statistics Canada, geocoded by postal codes of family allowance recipients and grouped into community or sub-community areas. The report presents a variety of graphic and tabular information relating to the geographical and age distribution of children in the Yukon.

Revenue Canada 1974 to 1984 Summary Report / Yukon Territory. Bureau of Statistics. Whitehorse, Yukon: Yukon Territory. Bureau of Statistics, 1987. 76 p.: figures, tables, 28 cm. Appendix. YWLS, YWA, OORD.

This report on income is published yearly by the Yukon Government, Bureau of Statistics and is derived from Revenue Canada statistics. The report is subdivided into three main parts. Part A analyzes data from the 1984 tax year and compares Yukon with Canada as a whole. Part B provides a time series analysis highlighting the Yukon and selected communities. Part C analyzes changes in real income between 1974 and 1984.

Energy Statistics. Research Paper / Yukon Territory, Bureau of Statistics
Whitehorse, Yukon: Yukon Territory, Bureau of Statistics, 1987.
54 p.: tables; 28 cm.
YWLS, YMA, OORD.

The report provides a comprehensive look at electricity data ranging from plant operations to electricity prices. It also focuses on petroleum products and time series data at the product level. Data is derived from a number of identified sources.

Department of Economic Development

LABOUR ACCOMODATION STUDY: MINES AND SMALL BUSINESS (G.5)

Opportunities for Rotational Employment In Yukon / The DPA Group Inc.
Perlman, B., Yukon Territorial Government [Sponsor]
Calgary: The DPA Group Inc.; Whitehorse: Perlman, B., 1987.
ix, 85 p.: figures, tables, 28 cm.
Reference.
YWLS, YWA, OORD.

The potential is examined for Yukon communities and Yukon-based resource projects to use rotational employment. Emphasis in the study was given to documenting lessons to be learned from rotational employment programs elsewhere in Northern Canada; the capacity of Yukon communities to participate in rotational employment programs; and, the potential socioeconomic impacts. Actions that could be taken to promote the concept and to minimize any of its negative aspects are discussed.

Department of Renewable Resources

NORTHERN RICHARDSON DALL SHEEP INVESTIGATIONS (G.14)

Population Ecology, Range Use and Movement Patterns of Dall Sheep in the Northern Richardson Mountains/
Barichello, N. Carey, Jan Jingforz K. Yukon Territory. Department of Renewable Resources [Sponsor].
Whitehorse, Yukon: Yukon Department of Renewable Resources, 1987.
viii, 125 p.: figures, tables; 28 cm.
Appendix.
References.
YWLS, YWA, OORD.

To assess the impact of an overland transportation route, baseline information is needed on Dall sheep ecology, range and seasonal patterns. The study found populations abundant and healthy. The animals use a core area year round and several other areas seasonally. The study concluded that hunting of full curl rams would not jeopardize the population but hunting of 3/4 curl may be detrimental. A conservative harvest rate and a restriction of human activities in areas of critical importance is recommended.

PORCUPINE CARIBOU HERD MANAGEMENT (G.16)

The Status and Life History of the Porcupine Caribou Herd 1983 /
Urguhart, D.R. Yukon Territory. Department of Renewable Resources
[Sponsor].

Whitehorse, Yukon: Yukon Department of Renewable Resources, 1983.
iii, 78 p.: figures, tables; 28 cm.

References.

YWLS, YWA, OORD.

A readable encyclopedia of Porcupine Caribou information to be used by those involved with research management, as a reference for particular topics, and as a detailed account. Originally written in 1983, this report has recently been redrafted and the population section updated. The background information is current to 1983.

GOVERNMENT OF THE NORTHWEST TERRITORIES

Department of Municipal and Community Affairs

FUNDS FOR TUKTOYAKTUK AND INUVIK COUNCILS TO IDENTIFY IMPACTS AND PLAN FOR DEVELOPMENT (H.2)

Tuktoyaktuk Harbour East Shore Land Use Plan / UMA Engineering Ltd.

Hamlet of Tuktoyaktuk [Sponsor].

Municipal and Community affairs, GNWT [Sponsor].

Edmonton: UMA Engineering Ltd., 1987.

34 p.: Appendices, maps; 28 cm.

OORD, NWYIN.

This planning exercise provides the hamlet with a plan to accommodate and guide industrial land development within the municipality. Potential users were interviewed regarding possible future requirements for land and for harbour access. Three development alternatives were produced and reviewed. A final design, including municipal service policies, was accepted. All alternatives are included. A summary of interviews conducted with potential users is appended.

Town of Inuvik, Waterfront Study / Arctech Resource Management Services.
Delcan Engineering.
Inuvik, N.W.T.: Arctech Resource Management Services,
DELCAN Eng, 1987.
97 p.: figures, 28 cm and maps (13p.: 23 cm x 42 cm).
References.
Appendix.
OORD, NWYGI

This study was carried out to guide future developments along the east channel of the Mackenzie River with emphasis on support for major industrial projects. It forms part of an overall resource development master plan for the Inuvik waterfront. Analysis maps were prepared with present and future activities considered. Recommendations on municipal zoning are also included.

Town of Inuvik: Report on Organization, Operations and Long Term Growth Needs/Touche Ross. Government of Northwest Territories [Sponsor].
[S.L.] ; Touche Ross, 1987.
72 p.: tables, figures; 28 cm.
Appendices.
OORD, NWYGI.

The report examines effectiveness of existing municipal administrative structures and concludes that operations are well-organized and effective. It recommends implementation of a revised organization for the town administration to be conducted in separate phases. These recommendations suggest alternative ways to administer the town during a short-term decline in community growth and, alternatively, how the municipality should be structured to best manage its expanded responsibilities as a result of rapid community growth.

POLICY ON THE FINANCING OF MUNICIPAL
INFRASTRUCTURE AND LAND SERVICING FOR RAPIDLY GROWING COMMUNITIES (H.7)

Infrastructure Policy: Report 1: Policy context - Nature of the Problem / R. A. Rabnett and Associates. Stanley Associate Engineers.
Sussex Consultant Ltd. Government of N.W.T. [Sponsor].
Vancouver, B.C. : R.A. Rabnett and Associates, 1985, (Revised 1987).
v, 79 p.: figures, tables, 28 cm.
OORD, NWYGI.

This report focusses on policies and processes for financing the extra cost of rapid community infrastructure expansion resulting from accelerated hydrocarbon development in the Beaufort region. It establishes the policy context and considers a range of options. Anticipated demand for expanded services was calculated and compared with existing service thresholds and capacity, with problem areas identified. The nature and cost of infrastructure expansion was projected. Normal and forced growth situations were discussed.

Infrastructure Policy: Report 2: Costs Associated with Rapid Expansion / R. A. Rabnett and Associates, Sussex Consultants Ltd., Urban Research Associate. Government of N.W.T. [Sponsor]. Vancouver, B.C. : R. A. Rabnett and Associates, 1986 (Revised 1987). v, 117 p.: figures, tables; 28 cm. OORD, NWYGI.

The costs associated with rapid expansion of community infrastructure are examined. The nature of social, financial and other kinds of costs imposed by forced growth are discussed. The report establishes a framework for selecting a service delivery plan to deal with these problems and identifies the potential for revenue shortfall. These subjects are then reviewed in the context of three Beaufort communities. Alternative funding options are discussed.

Infrastructure Policy: Report 3: Cost Recovery - Financing Rapid Expansion / R.A. Rabnett and Associates. Urban Research Associates. Government of N.W.T. [Sponsor]. Vancouver, B.C. : R.A. Rabnett and Associates, 1986 (Revised 1987). v, 137 p.: tables, figures; 28 cm. OORD, NWYGI.

Report 3 develops the basic criteria that will assist the GNWT and Beaufort communities to choose a financing option for infrastructure expansion. It focuses on the process by which an option to accommodate potential forced growth is selected and financed. The report makes recommendations regarding processes and strategies that can improve the ability of the GNWT and the communities to respond to potential forced growth and to increase their share of benefits. This report consists of two parts. Part A focuses on the communities' role in infrastructure expansion by examining local authority cost recovery procedures. Part B considers the role of governments in meeting revenue shortfalls.

Infrastructure Policy: Report 4: Policy Options /R.A. Rabnett and Associates. Vancouver : R. A. Rabnett and Associates, 1987. xiv, 88 p.: figures, tables; 28 cm. OORD, NWYGI.

Report 4 reviews problems associated with the additional costs of rapid expansion and makes recommendations along five main policy issues. It concludes that there are significant benefits to establishing a service delivery plan to deal with its anticipated needs; that the four component costs associated with community expansion be clearly distinguished; that industry's direct share of costs be recovered; and, that a Local Authority Impact Model apply as the tool for assessing a community's fiscal capacity and contribution to cost recovery. After evaluating the procedures for sharing costs of over-expansion, the report recommends establishment of a land servicing program and a revenue shortfall fund.

Infrastructure Policy: Dictionary - Problems of responding to Forced Growth / R.A. Rabnett and Associates, McGrath S.
86 p.; 28 cm.
Vancouver : R.A. Rabnett and Associates, 1986 (Revised 1987)
OORD, NWYGI.

The document forms part of a series of studies focusing on alternative policies for financing the rapid expansion of community infrastructures and is organized into three parts. Part I discusses the nature of the problems, presents examples and lists references to each problem. Part II lists all publications with cross-references to each problem. Part III references all relevant documents with full bibliographical information.

Department of Social Services

BEAUFORT DELTA SOCIAL IMPACT BASELINE DATA STUDY (H.3)

Baseline Data Study: Volume I, Indications Guide; Volume II, Baseline Data, Book 1, Book 2 / The Research Team. Government of N.W.T., Department of Social Services [Sponsor].
Yellowknife, N.W.T.: Government N.W.T., Department of Social Services, 1987.
2v. tables; 22 cm x 28 cm.
OORD, NWYGI.

The Baseline Data System is a basic reference tool for use in identifying the social impacts of petroleum industry related development on the communities of the Beaufort Delta. This report examines various statistical measures including education, health, crime and justice, young offenders, housing, alcohol and drugs, and leisure. It provides a two volume analysis of these indicators. Volume I discusses the individual indicators, their reliability and validity of measurement. Volume 2 provides the data itself.

An evaluation of Knute Lang Camp: A residential, preventative and educational alcohol and drug abuse project for native youth, piloted in Aklavik, Northwest Territories/NOGAP Research Team, Department of Social Services [Sponsor].
Inuvik, N.W.T.: The Department of Social Services, 1987
24 p: Photos; 28 cm.
Appendices.
NWYGI, NWYPS, OORD.

This report reviews and evaluates the degree to which the Knute Lang Camp Pilot Project's basic objectives were met. It recommends program and facility upgrading in order to make the camp a viable permanent facility serving the youth of the area. This wilderness camp additions program is one of several new service delivery models developed and piloted with NOGAP support in order to mitigate the identified negative socio-economic impacts of hydrocarbon development in the Beaufort Delta area.

Department of Renewable Resources

RENEWABLE RESOURCES HYDROCARBON DEVELOPMENT IMPACT AND PLANNING
GUIDELINES (H.4)

Summary of Conclusions of the Mackenzie Environmental Monitoring Project /
Fee-Yee Consulting Ltd. Delancey, D. G.N.W.T Department of
Renewable Resources [Sponsor].
Yellowknife, N.W.T.: Department of Renewable Resources, 1987.
ii, 37 p.: figure; 29 cm.
Appendix.
OORD, NWYGI.

The Mackenzie Environmental Monitoring Project (MEMP) was established to identify research and monitoring needs regarding environmental impacts of oil and gas development in the Mackenzie Valley and come up with a practical, flexible monitoring/research program. The results of the MEMP project and final report are summarized and reorganized here. This summary was produced for translation and distribution to the northern communities.

Environmental Atlas for Beaufort Sea Oil Spill Response - Human Use
Sensitivity Categories: Summary Report on a Workshop Conducted in
Inuvik, January 1987. / Erickson Associates. Government of N.W.T.,
Department of Renewable Resources [Sponsor].
Victoria B.C.: Erickson Associates, 1987.
5 p.: figures; 28 cm.
Appendix.
OORD, NWYGI.

This workshop was sponsored by COPE, NOGAP and the Beaufort Mackenzie Delta DIZ Society to develop maps of areas and species used in renewable resources harvesting activities. The data has been compiled in atlas form by Environment Canada to facilitate oil spill clean-up activities.

A Review of Renewable Resource Impacts and Mitigation Related to Northern Hydrocarbon Development / Environmental Systems Group
Delcan, De Leuw Cather, Canada Ltd. Department of Renewable Resources, GNWT [Sponsor]
Ottawa : Delcan, DeLeuw Cather, Canada Ltd., 1987.
(Various paging): figures; 28 cm. and chart (1p: 28 cm x 42 cm).
Appendix.
OORD, NWYGI.

Mitigation measures associated with two classes of projects were reviewed in conjunction with the findings of current northern project impact assessments - those that involved terrestrial exploration and transportation of oil and gas, and those that concentrated on offshore oil and gas exploration and transportation. The most common impacts are identified for current and associated projects on renewable resources related to accidental chemical spills and construction of support facilities and pipelines. The report identifies possible mitigation action associated with a range of petroleum - related activities.

RENEWABLE RESOURCES BASELINE INFORMATION FOR WILDLIFE POPULATIONS
AFFECTED BY HYDROCARBON DEVELOPMENT (H.16)

Feasibility of using Remote Sensing to Identify Potential Breeding Habitat of Falcons in the NWT/ Wakelyn, L. A. Department of Renewable Resources, GNWT [Sponsor]
Yellowknife, NWT: Department of Renewable Resources, 1987.
xi, 103 p.: tables, figures; 28 cm.
(Progress Report)
Appendix.
OORD, NWYGI.

Habitat requirements of peregrine falcons could not be identified through visual interpretation and digital classification of Landsat prints. It was found, however, that habitat for rock ptarmigan, the principal prey of gyrfalcons in the Melville Sound area, could be identified using this technique and digital image enhancements. The report concludes that identification of falcon breeding habitat in both areas using Landsat imagery was equal to that obtained by interpreting topographic maps.

Assessment of the Polar Bear Population in the Eastern Beaufort Sea / Department of Environment. Stirling, I., Andriashek, D. Spencer C., Derocher, A. Government of NWT. Department of Renewable Resources. Edmonton: Canadian Wildlife Service, 1987.
300 p.: figures, tables; 28 cm.
OORD, NWYGI.

The present polar bear population size and vital parameters are discussed. The results of the data collected were compared to earlier data from studies in the 1970's. In 1985 and 1986, 406 individual bears were tagged. Movement data indicates a separation of population along the mainland coast from that on the west coast of Banks Island and Amundsen Gulf. Preliminary estimates of population size in the study area were lower, though probably not significantly so, than estimates made in the late 1970's. This study also offers general observations on the effects of offshore hydrocarbon exploration and production.

Department of Culture and Communication

TRAINING NORTHERNERS IN ARCHAEOLOGICAL TECHNIQUES (H.32)

A Preliminary Report on the Drum Lake Archaeological Field Training Programme 1985-1986 / Hanks, C., Pokotylo, D.
British Columbia: University of B.C., 1987.
N.W.T.: Prince of Wales Northern Heritage Centre, 1987.
39 p.: 38 cm.
OORD, NWYGI.

The Drum Lake Archaeological Field School was conducted in the summers of 1985 and 1986. A total of nine students participated. The main goal was to develop a curriculum that could be used to train native residents as field assistants on archaeological field site rescue projects. In addition to the training aspect, a significant contribution was also made to knowledge about the archaeology of the Mackenzie Mountains. A report on the fauna from the Hay River and Drum Lake sites is also included.

Living Archaeology and Mackenzie Mountain Prehistory: The Evidence from Drum Lake, Paper presented at the 20th Annual Meeting of the Canadian Archaeological Association, Calgary April 24, 1987/
Pokotylo, D., Hanks, C. C.
Yellowknife : Prince of Wales Northern Heritage Centre, 1987.
12 p.; 28 cm.
OORD, NWYGI.

A report on two field seasons of research at Drum Lake, located in the eastern slopes of the Mackenzie Mountains, N.W.T. Prehistoric and ethnographic Mountain Dene settlement patterns are examined by studying variability in artifact assemblages from select sites. Hypotheses of site structure and use are tested against archaeological data and observations of Mountain Dene who continue to use the area. The role of Drum Lake in regional prehistory is also assessed.

Pathways to Archaeology: Dene Oral Tradition, Ethnogeography and the Material Record.

Paper presented at the Annual Conference of the Canadian Archaeological Association, Calgary, April 1987 / Andrews, T.D., Hanks, C.C., Government N.W.T. [Sponsor].

Yellowknife : Prince of Wales Northern Heritage Centre, 1987.

Edmonton: University of Alberta, Dene Mapping Project, 1987.

15 p.; 28 cm.

COORD, NWYGI.

Mountain Dene oral tradition and the distribution of archaeological features of the area of Drum Lake in the Mackenzie Mountain region of the N.W.T. are discussed. The report argues that local oral tradition, specifically that which relates to ethnogeography and the distribution and uses of trails, has important contributions to make to aspects of archaeological research. The authors conclude that archaeologists must reconsider standard sampling strategies and research design in light of the knowledge and experience of local informants.